

REMARKS

Reconsideration of the present application is requested on the basis of the following particulars.

1. Rejection of Claim 1 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,812,634 ("Ohta") in view of U.S. Patent 4,575,621 ("Dreifus")

This rejection is respectfully traversed on the basis that neither the Ohta patent nor the Dreifus patent, whether considered collectively or individually, disclose or suggest each and every feature of the data carrier according to claim 1. As a result, the asserted combination of the Ohta and Dreifus patents does not result in motivating one of ordinary skill in the art to devise the data carrier according to claim 1. Therefore, claim 1 is patentable and withdrawal of this rejection is kindly requested.

In the discussion that follows, first the data carrier of claim 1 will be explained, then the shortcomings of the teachings of the Ohta and Dreifus patents will separately be described in reference to the data carrier of claim 1, and finally it will be shown that a *prima facie* case of obviousness does not exist in view of the asserted combination of the Ohta and Dreifus patents.

- a. Data carrier of claim 1

Claim 1 recites a data carrier that includes a carrier having an electronic circuit, a display, a battery and a solar cell. The solar cell is provided for detecting the usability of the display. The solar cell and the battery are electronically connected in series. The voltage of the battery is lower than the threshold voltage of the display.

- b. Ohta patent

The Ohta patent fails to teach each and every feature of the data carrier of claim 1. In particular, and contrary to the assertion in the office action, the Ohta patent does not teach a data carrier having both a solar cell and a battery.

The Ohta patent describes a data carrier 21 having a display unit 23, CPU 40, a RAM 41, a ROM 42, a solar battery 24 and an EEPROM 43. The solar battery defines a tandem type solar battery in which a plurality of opto-electric conversion cells are used. Of particular importance, the data carrier operates without an external power supply or a secondary battery (col. 3, lines 27-52).

Contrary to the data carrier of claim 1, the Ohta patent makes it abundantly clear that the data carrier is to operate only with the solar battery. Thus, no additional battery is required (col. 9, lines 61-66).

The teachings of the Ohta patent are in direct contradistinction to the recited data carrier of claim 1. Claim 1 specifically requires that the data carrier be provided with a solar cell and a battery which are connected together. While the office action identifies the solar cell 24 in the Ohta patent as a battery, it makes no effort to reconcile the fact that the solar battery is the only battery and solar cell according to the Ohta patent.

Since the Ohta patent does not describe both a battery and solar cell, it cannot therefor teach connecting a battery and solar cell in a series configuration.

Furthermore, the Ohta patent cannot be construed to teach a solar cell for detecting the usability of the display since the display itself is powered by the solar cell. Instead, the Ohta patent describes using a voltage detector 47 to detect the operational state of the data carrier and operate switch 45 between an internal and an external power supply according to the operational state (col. 7, lines 18-40). The voltage detector, however, merely monitors the operational state of the data carrier with regards to internal and external power supplies and itself does not detect the usability of the display.

Lastly, the Ohta patent cannot be interpreted to disclose the feature of a battery having a threshold voltage lower than the threshold voltage of the display. The Ohta patent is simply too rigid in its explicit teachings of using only a solar battery to permit the stretching of its teachings to allow for the recited feature of claim 1. It follows from the teachings of the Ohta patent that the solar battery must have a threshold voltage higher than the threshold voltage of the display, to state otherwise would result in an operable display due to the use of only the solar battery to power the display.

In view of these observations, it readily appears that the Ohta patent does not teach each and every feature of the data carrier of claim 1. Of additional importance is that the Ohta patent provides teachings which run contrary to the data carrier of claim 1. Thus, one of ordinary skill in the art of data carriers would not be motivated by the teachings of the Ohta patent to make the data carrier of the claim 1, and further would be led astray from the claimed data carrier of claim 1 due to the adverse teachings in the Ohta patent.

c. Dreifus patent

The Dreifus patent describes a portable electronic transaction device and a terminal for receiving the device. The device includes a card having a central data processor, a fixed memory, an adaptable memory, optical means for transmitting and receiving information between the device and the terminal, and a power source. The device is arranged to operate in a standby mode during which it monitors itself for abnormal conditions, or in an operating mode during which it communicates with the terminal. The device includes an encryption/decryption system for communicating with an associated terminal.

In the standby mode, the power for the card is supplied by an on-board battery. In this standby mode, the card monitors itself by an interrupt control circuit. The interrupt control circuit monitors the features of the card and disables such

features upon detection of physical intrusion or the sensing of an inoperative or marginally operative condition of the card. Moreover, the interrupt control is arranged to switch the card from the standby mode to the operating mode. When the card is in the operating mode, power is supplied to the card by photocells. Thus, when the card is inserted into the terminal, a signal is received by a phototransistor on the card, light is received by the card's photocells, and the interrupt control, in turn, switches the card into the operating mode (col. 4, line 64 through col. 5, line 14).

The interrupt control circuit is described as detecting the presence of signals from clocks and checks for a proper output level from the photocells. If all of the checks are valid, the interrupt control circuit switches the device from the standby mode to the output mode (col. 11, lines 28-40). Moreover, the interrupt control includes a low power signal that is connected to the battery, as shown in FIG. 6, which enables the interrupt control to monitor the voltage level of the battery (col. 12, lines 15-55). In the event the voltage drops below a threshold, the interrupt control unit disables operation of the card (col. 15, lines 44-52).

It follows that the battery is used in the stand-by mode and the photocells are used in the operating mode. They do not appear to work in conjunction with one another as expressly recited in the data carrier of claim 1 to power the display.

Contrary to the assertion in the office action, the photocells of the card in the Dreifus patent do not determine the usability or probability of use of the card described therein. Instead, as discussed in the appeal brief filed on June 28, 2004, the interrupt control circuit of the transaction device of the Dreifus patent controls whether the device is in the standby mode or the operating mode by monitoring the usability and probability of use of the card. Moreover, the operating mode of the card is effected only by the interrupt control unit which switches between the modes when it is triggered by the signal received by the phototransistor and the light received by the photocells.

The present rejection fails to reconcile the difference of the interrupt control unit from the photocells in the Dreifus patent in comparison to the solar cell recited in claim 1. While it is clear from the Dreifus patent that the photocells are dependent upon the interrupt control unit which serves as an intermediary element governing the operation of the card with the terminal, it is not certain from the office action what is considered in the Dreifus patent as an equivalent teaching of the arrangement and relationships between the solar cell, battery and display of the claimed data carrier.

It is submitted that the photocells in the Dreifus patent do not determine the usability and probability of use of the card, as in the solar cell of the claimed data carrier. Instead, operation of the card in the Dreifus patent is clearly governed by a different feature in the form of the interrupt control unit. Accordingly, the Dreifus patent conveys a system for monitoring the usability and probability of use of a data carrier that is both functionally and structurally different from the features of claim 1.

d. Asserted combination of Ohta and Dreifus patents

In view of the above observations on the Ohta and Dreifus patents, it is attested that the asserted combination of the Ohta and Dreifus patents does not establish a *prima facie* case of obviousness of claim 1. As is well understood, in order for *prima facie* obviousness to exist, "there must be some objective teaching in the prior art or ... knowledge generally available to one of ordinary skill in the art [that] would lead that individual to combine relevant teachings of the references." *In re Fine*, 827 F.2d 1071, 1074 (Fed. Cir. 1988).

On the basis of the following particulars, neither the Ohta and Dreifus patents provide objective teachings that would motivate a skilled artisan to combine these patents to make the data carrier of claim 1.

First, and most importantly, the Ohta patent teaches away from providing both a battery and a solar cell. This teaching of the Ohta patent expressly deters a skilled

artisan from providing a data carrier with one of the fundamental features of the data carrier of claim 1.

Second, due to the failure of the Ohta patent to teach the use of both a battery and a solar cell, it clearly cannot be construed to teach the recited relationship between the solar cell, battery and display of claim 1. There is thus no suggestion in the Ohta patent that would motivate a skilled artisan to restructure the data carrier thereof in accordance with the teachings of the Dreifus patent and subsequently arrive at developing the recited data carrier of claim 1.

Third, even if the Ohta and Dreifus patents were combined in the manner asserted in the office action, a skilled artisan would not derive the claimed data carrier. This is due not only to the fact that the Ohta patent expressly disclaims the use of a secondary battery, but to the fact that the Dreifus patent conflicts with the Ohta patent in that the Dreifus patent describes both a battery and solar cell.

Finally, the solar cell of the Dreifus patent is not configured with the battery in the same manner described in claim 1 of the claimed invention. There is no acknowledgment that the data carrier of the claimed invention requires an interrupt control unit which is expressly described as being separate from a solar cell and a battery. This, of course, is because the solar cell in the claimed data carrier is configured with the battery in series, and the battery and the display are selected on the basis of their threshold requirements which effectively eliminate the need for a complex interrupt control such as the one proposed by the Dreifus patent.

In view of these observations, it is thus submitted that there is no disclosure or suggestion in either of the Ohta and Dreifus patents, whether considered collectively or individually, that would motivate one skilled in the art to make the data carrier according to claim 1.

Accordingly, withdrawal of this rejection is respectfully requested.

2. Conclusion

In view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that claim 1 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Justin J. Cassell', written in a cursive style.

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